REMARKS

This application has been reviewed in light of the Office Action dated December 15, 2006. Claims 1, 3, 5, 6, and 7 are presented for examination. Claims 1 and 3 have been amended to define more clearly what Applicants regard as their invention. New Claim 7 has been added to provide Applicants with a more complete scope of protection. Claims 1 and 3 are in independent form. Favorable reconsideration is requested.

Claims 1, 3, 5, and 6 were rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent Application Publication No. 2001/0039161 (*Sato*) in view of U.S. Patent No. 6,638,128 (*Suzuki*).

Conventionally, one region of a surface of a substrate covered with a vessel is disposed under a reduced-pressure atmosphere, while a further region on the surface of the substrate located outside of the vessel is under atmospheric air. Accordingly, heat cannot easily escape from the region under the reduced pressure atmosphere, but can easily escape from the further region under atmospheric air. As a result, a temperature difference is created on the substrate surface, and undesirable cracking of the substrate can occur. See, e.g., paragraph (0012) of the published version of the present application (2004/0152388).

The foregoing limitation can be overcome by the apparatus of Claim 1, for example, using a temperature adjusting mechanism for generating a different heat quantity per unit area for the one region covered with the vessel, and for the further region outside

of the vessel. The method of Claim 3 similarly can be beneficial because it involves heating the one region covered with the vessel with a smaller heat quantity per unit area while heating the further region outside of the vessel with a larger heat quantity per unit area.

The above-described limitation relating to possible substrate cracking is not recognized as a concern by either *Sato* or *Suzuki*, nor are the foregoing features of Claims 1 and 3 taught or suggested by those references.

As pointed out in the Amendment filed on May 30, 2006, *Sato* discloses that a substrate is covered and hermetically sealed with a vessel, and a plurality of temperature adjusting mechanisms are disposed within a base supporting the substrate. However, all of the temperature adjusting mechanisms in *Sato* adjust the temperature of the substrate area covered with the vessel only, and none of the temperature adjusting mechanisms adjust the temperature of the area not covered with the vessel. See, e.g., Fig. 3 of *Sato*. Accordingly, *Sato* does not provide a uniform temperature distribution throughout the substrate including the area covered with the vessel and the other area not covered with the vessel.

In support of the rejection of Claim 1, the Office Action cites col. 25, line 50 to col. 26, line 10 of *Suzuki*. As pointed out in the Preliminary Amendment filed November 22, 2006, that portion of *Suzuki* states:

> "As described above, since the voltage is applied to the multi-electron source in which six lines are simultaneously selected to perform the activation, heat in the substrate is largely increased. Assuming that the activation voltage Vact is 16V and If of each device immediately before

> completion of the activation is 3 mA, this heat can reach the following value:
>
> Q=16x0.003x3072x6≈900 W
>
> Furthermore, this heat is not necessarily generated uniformly in the entire multi-electron source substrate but concentrated on the matrix device region of the substrate, and it is not generated in the peripheral region such as the outtake wiring section. Reference numeral **102A** represents a heating section of the substrate. Therefore, heater units **Z201-1, Z201-2** and water cooling tubes **Z202-1, Z202-2, ...**are provided in the substrate supporting base **103** in order to improve or eliminate the generated temperature distribution, and they are controlled by a non-illustrated temperature controller in accordance with each unit so that the entire multi-electron source substrate has a set temperature Tset. The temperature control is required because the subsequent device characteristics (If, Ie) change in dependence on a temperature of the substrate during the activation and generation of the temperature distribution on the activated substrate causes the characteristic distribution of the multi-electron source to occur.

The installation height of the probe electroconductive member **201** will now be explained with reference to FIG. **29**."

It is respectfully submitted, however, that nothing in either *Sato* or *Suzuki* would disclose or suggest a temperature adjusting mechanism for generating different heat quantity per unit area for one region covered with the vessel, and for the further region outside of the vessel, as in Claim 1, and heating the one region covered with the vessel with a smaller heat quantity per unit area while heating the further region outside of the vessel with a larger heat quantity per unit area, as in Claim 3. For these reasons, Claims 1 and 3 are deemed to be clearly patentable over *Sato* and *Suzuki*, whether considered separately or in combination.

The other, dependent claims in this application each depend from Claim 1, and therefore partake in its patentability. Nonetheless, given that each dependent claim recites an additional aspect of the invention, the individual reconsideration of each on its is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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